

Training and Evaluation Outline Report

Status: Approved

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Task Number: 05-PLT-5731

Task Title: Perform Electrical-Power, Distribution Equipment Organizational Maintenance Operations

Distribution Restriction: Approved for public release; distribution is unlimited.

Destruction Notice: None

Foreign Disclosure: FD1 - This training product has been reviewed by the training developers in coordination with the Fort Leonard Wood, MSCoE foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	AR 710-2	SUPPLY POLICY BELOW THE NATIONAL LEVEL	Yes	No
	ATP 4-33	Maintenance Operations http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp4_33.pdf	Yes	Yes
	ATP 5-19 (Change 001 09/08/2014 78 Pages)	RISK MANAGEMENT http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp5_19.pdf	Yes	No
	EM 385-1-1	Safety and Health Requirements.	Yes	No
	IEEE	Institute of Electrical and Electronics Engineers	Yes	No
	NETA?	Maintenance Testing Specifications for Electrical Power Distribution Equipment & Systems. 2007	Yes	No
	NFPA 70	National Electrical Code	Yes	No
	PAM 750-8	The Army Maintenance Management System (TAMMS) Users Manual.	Yes	No
	TM 3-34.45	ENGINEER PRIME POWER OPERATIONS	Yes	No
	TM 5-682	Facilities Engineering: Electrical Facilities Safety.	Yes	No

Conditions: While conducting prime power operations the element performs organizational maintenance on the power distribution system. The element has all required personnel, tools, equipment and maintenance Standard Operating Procedures (SOP). Work site security is provided by the supported element.

Note: The Commander must still determine at what level of training they would want the element to perform. Crawl, walk or run. This can only be determined after consideration as to the units training level.

The Commander prior to evaluating an element in the conduct of the task must determine if it will be conducted in a Live, Virtual, or Constructive environment, additionally it must also be determined which condition as described below that the element will conduct the task. The selection made for this task is at a trained level of proficiency. The commander must determine which of the environments below will best suit the unit and the proficiency level at which the unit is. When conducting crawl or walk level training units should not increase the intensity until the unit has achieved the standards and then unit trainers should include variables that increase proficiency in all conditions.

Note: The condition statement for this task is written assuming the highest training conditions reflected on the Task Proficiency matrix required for the evaluated unit to receive a "fully trained" (T) rating.

Note: Condition terms definitions:

Dynamic Operational Environment: Three or more operational and two or more mission variables change during the execution of the assessed task. Operational variables and threat Tactics, Techniques, and Procedures (TTPs) for assigned counter-tasks change in response to the execution of Blue Forces (BLUFOR) tasks.

Complex Operational Environment: Changes to four or more operational variables impact the chosen friendly COA/mission. Brigade and higher units require all eight operational variables of Political, Military, Economic, Social, Infrastructure, Information, Physical environment, and Time (PMESII-PT) to be replicated in varying degrees based on the task being trained.

Single threat: Regular, irregular, criminal or terrorist forces are present.

Hybrid threat: Diverse and dynamic combination of regular forces, irregular forces, and/or criminal elements all unified to achieve mutually benefiting effects.

This task should not be trained in MOPP 4.

Standards: The element performs the organizational maintenance on the distribution system and equipment according to standards specified in the applicable regulations, higher Headquarters (HQ) directives, item specific Technical Manual (TMs), and approved maintenance procedures for distribution systems. The element identifies and records all faults, and corrects all deficiencies possible. Element orders any required repair parts not on hand.

Note: Leaders are defined as the Commander, Executive Officer, First Sergeant, Operations Sergeant, Platoon Leaders, Platoon Sergeants, Squad Leaders, and Team Leaders.

Live Fire Required: No

Objective Task Evaluation Criteria Matrix:

Plan and Prepare			Execute						Assess
Operational Environment		Training Environment (LV/C)	Training/Authorized % of Leaders Present at	% of Soldiers Present at	External Eval	% Performance Measures 'GO'	% Critical Performance Measures 'GO'	% Leader Performance Measures 'GO'	Task Assessment
SQD & PLT									
Dynamic (Single Threat)	Night	IAW unit CATS statement.	>=85%	>=80%	Yes	>=91%	All	>=90%	T
	Day		75-84%			80-90%		80-89%	T-
Static (Single Threat)	Night		65-74%	75-79%	No	65-79%	<All		<=79%
	Day		60-64%	60-74%		51-64%		P-	
			<=59%	<=59%		<=50%		U	

Remarks: None

Notes: All required references and technical manuals will be provided by the local command.

Safety Risk: Low

Task Statements

Cue: None

DANGER

Leaders have an inherent responsibility to conduct Risk Management to ensure the safety of all Soldiers and promote mission accomplishment.

WARNING

Risk management is the Army's primary decision-making process to identify hazards, reduce risk, and prevent both accidental and tactical loss. All Soldiers have the responsibility to learn and understand the risks associated with this task.

CAUTION

Identifying hazards and controlling risks across the full spectrum of Army functions, operations and activities is the responsibility of all Soldiers.

Performance Steps and Measures

NOTE: Assess task proficiency using the task evaluation criteria matrix.

NOTE: Asterisks (*) indicate leader steps; plus signs (+) indicate critical steps.

STEP/MEASURE	GO	NO-GO	N/A
+ 1. The element follows SOPs for the distribution system organizational maintenance program.			
a. Defines the duties and responsibilities of the distribution system organizational maintenance personnel.			
+ b. Defines the following organizational maintenance procedures:			
(1) Conducting preventive and predictive maintenance.			
(2) Preparing preventive and predictive maintenance records.			
(3) Documenting and controlling work projects.			
(4) Documenting and controlling repair parts and materials.			
(5) Requesting external (intermediate) maintenance support on distribution systems and equipment.			
(6) Inventory and control of distribution maintenance shop tools, sets, kits and outfits, and individual assigned tool kits.			
(7) Procuring and maintaining the technical reference library for the maintenance shop.			
(8) Procuring and maintaining the supplies and materials for the maintenance shop.			
(9) Controlling cannibalization of distribution system equipment.			
+ 2. The element follows the Occupational Safety and Health Administration (OSHA) requirements for the maintenance shop.			
+ a. Enforces the fire prevention and protection procedures for the maintenance shop and appoints a Fire Marshal.			
b. Enforces the general housekeeping and safety procedures and rules for the maintenance shop.			
c. Enforces individual work practices, safety procedures, and rules.			
d. Enforces safe clearance and caution procedures.			
e. Performs unscheduled safety inspections.			
+ f. Conducts safety briefings, education, training, and counseling.			
+ 3. The element maintains the technical reference library for the equipment maintenance shop.			
a. Appoints a maintenance shop librarian.			
+ b. Maintains current operation and maintenance Technical Manuals (TMs) and publications, including:			
(1) Manuals for end items of equipment.			
(2) Manuals for operating systems.			
(3) Manuals for Test, Measurement, and Diagnostic Equipment (TMDE).			
(4) Department of Army (DA) regulations, pamphlets, technical bulletins (TBs), and Training Circulars (TCs).			
(5) Corps of Engineers publications, architectural engineering instructions (AEIs), and engineering technical letters.			
(6) Department of Defense (DOD) publications and standard details.			
+ c. Maintains current nonmilitary procedures and standards for maintenance and testing of power plant equipment and systems, including the following:			
(1) American Society for Testing and Materials (ASTM).			
(2) Institute of Electrical and Electronic Engineering (IEEE).			
(3) American Society of Mechanical Engineers (ASME).			
(4) American Welding Society (AWS).			
(5) American Petroleum Institute (API).			
(6) Society of Automotive Engineers (SAE).			
+* 4. The element leader manages the maintenance shop supply operations.			
+ a. Inspects the Prescribed Load List (PLL) and inventory, verifying the following:			
(1) Stock of authorized demand supported items (excluding applicable exceptions).			
(2) Maintenance and upkeep of record of demand.			
(3) Timely reordering and replacing of inventory.			
(4) Storage and serviceability of inventory within established guidelines and procedures.			
+ b. Manages the Bench Stock List (BSL) and inventory, verifying the following:			
(1) BSL is approved by the Maintenance Officer.			
(2) Stock on hand is consistent with the approved types and quantities.			
(3) Inventory is stored In Accordance With (IAW) established standards and is serviceable.			
c. Ensures that repair parts and demand supported shop stock used for maintenance projects are transferred to the demand data records.			
* 5. The element leader manages the maintenance workforce.			

a. Designates an equipment maintenance sub-shop supervisor and assigns crew members.			
b. Assigns a maintenance shop tool room keeper.			
+ 6. The element performs equipment maintenance IAW approved procedures and standards.			
+ a. Documents organizational maintenance projects and maintains records.			
+ b. Performs maintenance and verifies serviceability of the following:			
(1) Test, Measurement and Diagnostic Equipment (TMDE).			
(2) High-voltage tools and equipment.			
(3) Personal safety clothing and equipment.			
(4) Power line construction tools.			
+ c. Monitors the distribution equipment oil and gas analysis program.			
+ 7. The power plant electrical maintenance crew performs organizational maintenance on Power Rapidly In-place Modular Equipment Systems (PRIMES).			
+ a. Requests and applies cautions and safe clearances.			
+ b. Troubleshoots electrical equipment and systems.			
+ c. Performs organizational maintenance on scheduled electrical equipment.			
+ d. Performs organizational repairs on electrical equipment breakdowns.			
e. Releases and removes cautions and safe clearances.			
f. Accounts for repair parts and materials used.			
+ 8. The power line maintenance crew performs organizational maintenance on aerial (overhead) or underground distribution systems and equipment.			
+ a. Requests and applies cautions and safe clearances.			
+ b. Troubleshoots distribution system electrical equipment.			
+ c. Performs scheduled organizational maintenance on distribution system electrical equipment.			
+ d. Performs organizational repairs on distribution system electrical equipment breakdowns.			
+ e. Performs scheduled inspections and testing on utility poles.			
f. Releases and removes cautions and safe clearances.			
g. Accounts for repair parts and materials used.			
+* 9. The element leader prepares damaged distribution equipment for evacuation.			
+* 10. The element leader prepares the materials condition status report for power distribution equipment.			

TASK PERFORMANCE / EVALUATION SUMMARY BLOCK							
ITERATION	1	2	3	4	5	M	TOTAL
TOTAL PERFORMANCE MEASURES EVALUATED							
TOTAL PERFORMANCE MEASURES GO							
TRAINING STATUS GO/NO-GO							

ITERATION: 1 2 3 4 5 M

COMMANDER/LEADER ASSESSMENT: T P U

Mission(s) supported: None

MOPP 4: Never

MOPP 4 Statement: None

NVG: Never

NVG Statement: None

Prerequisite Collective Task(s):

Step Number	Task Number	Title	Proponent	Status
	05-CO-5750	Provide Prime Power Support	05 - Engineers (Collective)	Approved

Supporting Collective Task(s):

Step Number	Task Number	Title	Proponent	Status
	05-PLT-5725	Install Aerial Electrical Power Distribution Equipment	05 - Engineers (Collective)	Approved
	05-PLT-5730	Perform Electrical-Power Generation Equipment Organizational Maintenance Operations	05 - Engineers (Collective)	Approved
	05-PLT-5732	Conduct Electrical-Power Generation Equipment Intermediate Maintenance Operations	05 - Engineers (Collective)	Approved
	71-CO-5100	Conduct Troop Leading Procedures for Companies	71 - Combined Arms (Collective)	Approved
10.	05-CO-0018	Conduct Report Procedures	05 - Engineers (Collective)	Approved

OPFOR Task(s):

Task Number	Title	Status
71-CO-8502	OPFOR Execute an Ambush	Approved
71-CO-9004	OPFOR Reconnaissance Attack (Company and below)	Approved

Supporting Individual Task(s):

Step Number	Task Number	Title	Proponent	Status
	052-204-1108	Inspect Safety Equipment	052 - Engineer (Individual)	Approved
	052-204-1113	Prepare a Manhole for Safe Entry	052 - Engineer (Individual)	Approved
	052-204-1114	Rescue an Injured Victim From a Utility Pole	052 - Engineer (Individual)	Approved
	052-204-1116	Rescue an Injured Victim From an Aerial-Bucket Truck	052 - Engineer (Individual)	Approved
	052-204-1117	Inspect Hot-Line Equipment	052 - Engineer (Individual)	Approved
	052-204-1119	Perform Operator Preventive-Maintenance Checks and Services (PMCS) on a Line Truck With Auxiliary Equipment	052 - Engineer (Individual)	Approved
	052-204-1120	Install a Grounding Set	052 - Engineer (Individual)	Approved
	052-204-1121	Install High-Intensity Lights and Ballasts	052 - Engineer (Individual)	Approved
	052-204-1125	Operate a Line Truck with Auxiliary Equipment	052 - Engineer (Individual)	Approved
	052-204-1127	Perform Groundman Duties	052 - Engineer (Individual)	Approved
	052-204-1202	Maintain Rigging/Hoisting Equipment	052 - Engineer (Individual)	Approved
	052-204-1203	Perform Operator Preventive-Maintenance Checks and Services (PMCS) on a Bucket/Material Handler Truck	052 - Engineer (Individual)	Approved
	052-204-1204	Tie Rope Knots and Splices	052 - Engineer (Individual)	Approved
	052-204-1206	Use a Line Truck with Trailer to Load and Unload Poles	052 - Engineer (Individual)	Approved
	052-204-1207	Install a Utility Pole	052 - Engineer (Individual)	Approved
	052-204-1210	Sag Single Phase and Three Phase Overhead Conductors	052 - Engineer (Individual)	Approved
	052-204-1211	Install Distribution System Protection and Equipment (De-energized)	052 - Engineer (Individual)	Approved
	052-204-1212	Operate a Bucket/Material Handler Truck	052 - Engineer (Individual)	Approved
	052-204-1213	Splice a Medium-Voltage URD Power Cable	052 - Engineer (Individual)	Approved
	052-204-1214	Terminate a Medium-Voltage URD Power Cable	052 - Engineer (Individual)	Approved
	052-204-1215	Splice a Medium-Voltage Overhead Power Cable	052 - Engineer (Individual)	Approved
	052-204-2207	Conduct a Safety Briefing	052 - Engineer (Individual)	Approved
	052-204-2208	Conduct a Safety Inspection	052 - Engineer (Individual)	Approved
	052-204-2210	Secure Conductor to Insulator (Energized)	052 - Engineer (Individual)	Approved
	052-204-2211	Develop a Bill of Materials (BOM) List	052 - Engineer (Individual)	Approved
	052-204-2212	Energize an Electrical Distribution System	052 - Engineer (Individual)	Approved
	052-204-2213	Locate an Underground Cable and/or Fault	052 - Engineer (Individual)	Approved
	052-204-2216	Perform Maintenance on Electrical Distribution Equipment	052 - Engineer (Individual)	Approved
	052-204-2217	Manage a Power Line Crew	052 - Engineer (Individual)	Approved
	052-204-2301	Perform Switching, Blocking and Tagging Procedures	052 - Engineer (Individual)	Approved
	052-204-2302	Install Distribution System Protection and Equipment (Energized)	052 - Engineer (Individual)	Approved
	052-204-2303	Perform Primary Voltage Live-Line Testing	052 - Engineer (Individual)	Approved
	052-204-2304	Perform Secondary Voltage Live-Line Testing	052 - Engineer (Individual)	Approved
	052-204-2305	Trouble Shoot Primary/Secondary Voltage Systems	052 - Engineer (Individual)	Approved
	052-204-2306	Supervise the Installation of a Utility Pole	052 - Engineer (Individual)	Approved
	052-205-2125	Service a Governor for Generating Equipment	052 - Engineer (Individual)	Approved
	052-205-2129	Troubleshoot a Diesel Engine Lube Oil System	052 - Engineer (Individual)	Approved
	052-205-2130	Troubleshoot a Diesel Engine Cooling System	052 - Engineer (Individual)	Approved
	052-205-2131	Troubleshoot a Diesel Engine Air Intake and/or Exhaust System	052 - Engineer (Individual)	Approved
	052-205-2132	Repair a Diesel Engine Lube Oil System	052 - Engineer (Individual)	Approved
	052-205-2133	Repair a Diesel Engine Cooling System	052 - Engineer (Individual)	Approved
	052-205-2134	Repair an Engine Air Intake and/or Exhaust System	052 - Engineer (Individual)	Approved
	052-206-2104	Service a System Ground	052 - Engineer (Individual)	Approved
	052-206-2115	Service a Distribution Transformer	052 - Engineer (Individual)	Approved
	052-206-2116	Service Bus Bars	052 - Engineer (Individual)	Approved
	052-206-2119	Perform an Insulation Resistance Test to Determine the Condition of the Insulation	052 - Engineer (Individual)	Approved
	052-206-2122	Service a Switchgear Enclosure	052 - Engineer (Individual)	Approved
	052-206-2125	Service an Alternating-Current (AC) Generator Assembly	052 - Engineer (Individual)	Approved
	052-206-2127	Service a Sulfur Hexafluoride (SF6) Circuit Breaker	052 - Engineer (Individual)	Approved
	052-206-2136	Perform an Insulation Resistance Test	052 - Engineer (Individual)	Approved
	052-207-2118	Service an Induction Disk and/or Electromagnetic Relay	052 - Engineer (Individual)	Approved
	052-210-1012	Manage the Construction/Repair of Electrical Utilities	052 - Engineer (Individual)	Approved

	052-210-1103	Manage Installation of a Medium Voltage Non-Aerial Air Switch	052 - Engineer (Individual)	Approved
	052-210-1106	Perform Quality Assurance (QA) Quality Control (QC)	052 - Engineer (Individual)	Approved
	052-210-1110	Manage Load Assessment	052 - Engineer (Individual)	Approved
	052-210-1111	Manage Installation of an Overhead System Fuse or Fuse Link	052 - Engineer (Individual)	Approved
	052-210-1114	Manage the Maintenance of Sagging Overhead Conductors	052 - Engineer (Individual)	Approved
	052-210-1117	Design a Temporary Medium Voltage Distribution System	052 - Engineer (Individual)	Approved
	052-210-1127	Manage Electrical-Power Generation and Distribution Equipment Retrieval	052 - Engineer (Individual)	Approved
	052-210-1139	Manage the Installation of Aerial Electrical Power Distribution Equipment	052 - Engineer (Individual)	Approved
	052-210-1142	Manage Electrical-Power Generation Equipment Organizational Maintenance	052 - Engineer (Individual)	Approved
	052-210-1143	Manage Electrical-Power, Distribution Equipment Organizational Maintenance Operations	052 - Engineer (Individual)	Approved
	052-210-1144	Manage Disaster Relief Operations	052 - Engineer (Individual)	Approved
	052-244-2118	Perform Preventive-Maintenance Checks and Services (PMCS) on a Mobile Electric Power (MEP)-012 or -208 Generator	052 - Engineer (Individual)	Approved
	052-244-2147	Troubleshoot a Nonorganic Prime Mover	052 - Engineer (Individual)	Approved
	052-264-2115	Troubleshoot the Improper Operation of an Electrical Motor	052 - Engineer (Individual)	Approved

Supporting Drill(s): None

Supported AUTL/UJTL Task(s):

Task ID	Title
ART 4.1.7.4	Supply Mobile Electric Power

TADSS

TADSS ID	Title	Product Type	Quantity
No TADSS specified			

Equipment (LIN)

LIN	Nomenclature	Qty
No equipment specified		

Materiel Items (NSN)

NSN	LIN	Title	Qty
No materiel items specified			

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to the current Environmental Considerations manual and the current GTA Environmental-related Risk Assessment card. .

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination. .

